SLR2000 Status: January 2005

• SLR2000 is now tracking satellites using the Risley Prisms to steer the transmit beam ahead of the satellite. System has collected data in this configuration from multiple LEO satellites.

• A problem with the alignment of the two paths through the passive T/R switch was discovered and corrected.

• Alignment and parameter determination for closed-loop tracking have been performed. We expect to begin our first attempts at satellite closed-loop tracking in February.

• Camera borrowed from HTSI was used to verify point-ahead orientation (to the 10 – 20 degree level). The transceiver transformations (including point-ahead) were also independently determined by both McGarry and Degnan. These two sets of transformations were compared this month and they agree.

• Working on software to control transceiver optics.

• Near term goals – complete major technical challenges:
  - complete checkout of the Risley Prism Point-Ahead and get into operational SW.
  - get closed-loop tracking working for satellites.
  - demonstrate LAGEOS ranging.

• Long term goals:
  - get ranging data quality to operational level.
  - complete decision making software to make the station semi-automated.